

VERNUZAYEV, Ye.D.; PLANOVSKIY, A.N.

Kinetic equations for calculating the efficiency of sieve-plate extraction columns. Zhur.prikl.khim. 36 no.2:295-298 F '63. (MIRA 16:3)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.  
(Extraction apparatus)

VERTUZAYEV, Ye.D.

Essence of the end effects observed in extraction columns. Khim.  
i tekhn. topl. i masel 9 no.7:8-12 JI '64.

(MIRA 17:12)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

VERTYACHIKH, A.

Use of conductometry for the automatic control of pulp basicity.  
TSvet. met. 34 no. 12:85-87 D '61. (MIRA 14:12)

(Flotation)  
(Conductometric analysis)

VIRTYACHIKH, V.G., inzh.; DEMIDOV, V.Ya., inzh.; PAK, P.B., inzh.

Detection and removal of electric detonators and live cartridges.  
Bezop.truda v prom. 6 no.6:18-19 Je '62. (MIRA 15:11)

1. Vostochnyy nauchno-issledovatel'skiy institut po bezopasnosti  
rabot v gornoy promyshlennosti.

(Detonators—Safety measures)  
(Electronic apparatus and appliances)

VERTYACHIKH, V.G.; KOMAROV, V.S.

Explosion proof gaps in electric mine equipment. Vop. bezop.  
v ugol'. shakh. 1:192-197 '59. (MIRA 1732)

VERTYACHIKH, V.G.; BEZDENEZHNYKH, A.G.

Certain characteristics of industrial casings for explosion-proof equipment. Nauch. soob. VostNII no.3:87-92 '63.

Basis for standards on current leakage distances from electrical equipment in mines. Ibid.:93-102 '63.

(MIRA 17:5)

BEZDENEZHNYKH, A.G., inzh.; VERTYACHIKH, V.G., inzh.

Standardized norms for the distance of electrical leakage  
along insulating components of explosionproof electrical  
equipment. Vest. elektroprom. 34 no.3:19-22 Mr '63.

(Electricity in mining—Safety regulations) (MIRA 16:8)

KHORUNZHIY, V.A., red.; RIBAS, Yu.M., red.; BORISEVICH, Z.S., red.;  
VERTYACHIKH, V.G., red.; KOST'YEV, N.K., red.; MOVSESOV, N.S.,  
red.; ZHIGULIN, Yu.V., red.; RAKOVICH, I.I., red.; RUVINSKIY,  
V.A., red.; TULIN, V.S., red.; FETISOV, P.A., red.; FILIMONOV,  
P.V., red.; IGLITSYN, I.L., red.; LARIONOV, G.Ye., tekhn.red.

[Rules for the manufacture of explosion-proof electric equipment]  
Pravila izgotovleniya vzryvozashchishchennogo elektrooborudovaniya.  
Moskva, Gos.energ.isd-vo, 1960. 54 p. (MIRA 13:11)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po avtomatizatsii i mashinostroyeniyu.  
(Electric apparatus and appliances)



VERTYACHIKH, V.G., inzh.

Explosion-proof attachment with a measuring instrument. Bezop.  
truda v prom. 3 no.9:20-21 S '59. (MIRA 13:2)

1. Vostochnyy nauchno-issledovatel'skiy institut po bezopasnosti  
rabot v gornoy promyshlennosti.  
(Electricity in mining)

VERTYANKIN, Vas.

Railroads - Kara Kum

Through the sands of the Kara Kum. Mol. kolkh. 20, No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

1. VERTYANKIN, Vas.

2. 133R (600)

4. Kara Kum-Railroads

7. Through the sands of the Kara Kum. Mol. kolkh. 20 no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

Translation from: Referativnyy Zhurnal, Geologiya, 1957, Nr 3,  
p 85 (USSR) 15-1957-3-3038

AUTHORS: Avdonin, V. N., ~~Vertyshkov, G. N.~~

TITLE: Amethyst from the Berezovskoye Gold Field in the  
Urals (~~Amethyst~~ iz Berezovskogo zolotorudnogo  
mestorozhdeniya na Urale)

PERIODICAL: Tr. Sverdlsk. gos. univ., 1956, vol 26, pp 93-94

ABSTRACT: Two nests with crystals of apatite were discovered  
in banded quartz-sulfide veins at Petropavlovsk.  
The size of one nest is 6x20x35 cm, of the other  
15x30x25 cm. Rock crystals and crystals of cal-  
cite are also present in the nests. The amethyst  
forms complex parallel intergrowths of fantastic  
forms. Individual crystals form short prisms,  
reaching 6 to 7 cm in length and 4 cm across.  
The crystal forms m  $\{109\}$  R  $\{1011\}$ , and r  
 $\{0111\}$  were identified. The mineral is platy.

Card 1/2

15-1957-3-3038

Amethyst from the Berezovskiy Gold Field in the Urals

A complex pattern of twinning striae is visible on each crystal, the twins forming according to the Dauphine law (c-axis, the twinning axis). All specimens are strongly fractured and made turbid by small secondary inclusions. Only individual and comparatively small parts of the tips of crystals are transparent. The violet color of the amethyst is confined to narrow bands paralleling the edge of the rhombohedron; these bands impart a pale violet color to the whole mass of the crystal. The centers of the violet stain occur chiefly in the tip of the crystal. When the amethyst is heated for a brief period to 450° to 500° the color is not affected; continued heating at comparative low temperatures leads to fading of the amethyst color. Thus the violet color in quartz crystals cannot be used as an index of the temperature of its formation.

G.A.G.

Card 2/2

15-1957-3-3043

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3,  
p 86 (USSR)

AUTHOR: Vertushkov, G. N.

TITLE: A Limonite Geode from the Bakal Iron Deposit  
(Zheoda limonita iz Bakal'skogo zhelezorudnogo  
mestorozhdeniya)

PERIODICAL: Tr. Sverdl. gorn. in-ta, 1956, Nr 26, pp 94-98

ABSTRACT: The geode from the Bakal deposit is one of  
the largest of its kind. In shape it is almost a  
triaxial ellipsoid. The structure of the limonite  
on the walls of the geode is quite different from  
that of the mineral in the interior. The periphery  
consists of earthy, porous limonite; the variety  
in the interior is dense. The peripheral variety  
is chiefly hydrogoethite and goethite. The interior

Card 1/2

15-1957-3-3043

A Limonite Geode from the Bakal Iron Deposit

part of the geode is composed of stalactitic limonite, most of which has the clear structure of goethite. The thermal curve indicates that it is typical goethite and, in part, hydrogoethite, with no other mineral admixtures. Druses of siderite crystals are found in very few places in the outer part of the geode. The internal surface of the geode is covered with radiating goethite. The lower part, occupying approximately one third of the cavity, contains a warped limonite crust, the edges of which are broken off. The author thinks that the geode may be a cavern, the walls of which began to form by deposition of limonite in the chamber. The chamber itself may have formed by solution of siderite. Later, solutions got into the hollow of the cavern through the walls and were filtered during their passage. Thus clean radiating goethite formed on the roof, but on the floor limonite crust appeared.

G. A. G.

Card 2/2

VERTYSHEVA, N.S.; LATKIN, V.F.; PROKHOROVA, A.A.; YEFIMOVA-SYAKINA, E.M.;  
PARASHCHENKO, S.F., kand.istor.nauk, red.; TRUBITSYNA, A.N.,  
kand.istor.nauk, red.; PLOTHNIKOV, A.M., red.; KHLOBOZDOV, V.I.,  
tekhn.red.

[Collectivization of agriculture on the Kuban; collection of  
documents and materials] Kollektivizatsiia sel'skogo khoziaistva  
na Kubani; sbornik dokumentov i materialov. Krasnodar, Krasno-  
darskoe knizhnoe izd-vo. Vol.1. 1918-1927 gg. 1959. 201 p.  
(MIRA 13:3)

1. Kommunisticheskaya partiya Sovetskogo Soyusa. Krasnodarskiy  
krayevoy komitet. Partinyy arkhiv.  
(Kuban--Agriculture, Cooperative)



BOKSHEYN, S.Z.; KISHKIN, S.T.; NIKISHOV, A.S.; POLYAK, E.V.; SOLOV'YEVA, G.G.;  
Prinimali uchastiye: ARZHAKOV, V.M.; BULANOV, A.V.; VERTYUKOVA, L.G.;  
KORABLEVA; MIRSKIY, L.M.; PODVOYSKAYA, O.N.; SAZONOVA, T.N.;  
SOLONINA, O.P.; TITARENKO, I.I.; RINK, L.P.; KOZLOVA, M.N.;  
YERMOLOVA, M.I.; MOROZ, L.M.

Aging of plastically deformed alloys. Metalloved. i term. obr.  
met. no.5:40-44 My '63. (MIRA 16:5)  
(Heat-resistant alloys--Hardening) (Deformations (Mechanics))

SOV/63-4-1-27/31

5(1, 3)

AUTHORS:

Vertulina, L.N., Korshunov, I.A.

TITLE:

Polarographic Determination of Hexaethyldi-Lead in Tetraethyl-Lead (Polyarograficheskoye opredeleniye geksaetildisvintsa v tetraetilsvintse)

PERIODICAL:

Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 1, p 136 (USSR)

ABSTRACT:

The quantitative polarographic determination of hexaethyldi-lead in tetraethyl-lead is investigated here. Since hexaethyldi-lead is easily hydrolyzed, ethyl alcohol was used as solvent and tetraethylammonium iodide as indifferent electrolyte. Figure 2 shows the direct proportionality between the diffusion current and the hexaethyldi-lead concentration in the solution. If the content is 0.5 to 10%, this relation may be used for the determination of the hexaethyldi-lead content. The average error is 7%.

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There are 2 graphs, 1 table and 3 Soviet references.

SOV/63-4-1-27/31

Polarographic Determination of Hexaethyldi-Lead in Tetraethyl-Lead

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete (Scientific Research Institute of Chemistry at the Gor'kiy State University)

SUBMITTED: June 3, 1958

Card 2/2

VERTYULINA, L. N.; DOMRACHEV, G. A.; KORSHUNOV, I. A.; RAZUVAYEV, G. A.

Preparation and polarographic behavior of derivatives of  
bis-ethylbenzenechromium. Zhur. ob. khim. 33 no.1:285-290  
'63. (MIRA 16:1)

1. Nauchno-issledovatel'skiy institut khirii pri Gor'kovskom  
gosudarstvennom universitete imeni N. I. Lobachevskogo.

(Chromium compounds) (Polarography)

33925  
S/079/62/032/001/001/016  
D205/D302

5.1310  
AUTHORS:

Korshunov, I.A., Vertyulina, L.N., and Domrachev, G.A.

TITLE:

Reduction of the sandwich type aromatic chromium compounds on a dropping mercury cathode

PERIODICAL:

Zhurnal obshchey khimii, v. 32, no. 1, 1962, 9 - 12

TEXT: This is a continuation of a previous communication by Korshunov, et al (Ref. 1: Dokl. AN SSSR, 122, 1029, 1958). Results are given of the reduction of iodides of di(o-xylene)-chromium(I), di(m-xylene)-chromium(I), di(p-xylene)-chromium(I), benzene diphenyl chromium(I) and dihexamethylbenzene-chromium(I) hydroxide, on a dropping mercury cathode. Synthesis of the xylene derivatives were performed according to E. Fischer and W. Hafner (Ref. 2: Z. anorg. allg. ch., 286, 146, 1956) and of the hexamethylbenzene derivatives according to E. Fisher and D. Sens (Ref. 3: Ber., 89, 1809, 1956). The polarograms were recorded using a visual polarograph of all the iodides. The polarogram of the dihexamethylbenzene-chromium(I) hydroxide was recorded by an electronic integrating differentiating polarograph. Polarograms were taken in 0.5 N solutions of LiCl, KCl

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S/079/62/032/001/001/016  
D205/D302

Reduction of the sandwich type ...

$\text{NH}_4\text{Cl}$ ,  $\text{Na}_2\text{SO}_4$ ,  $\text{KNO}_3$ ,  $\text{KOH}$  and also in buffer solutions in the pH range, 3.1 - 11.75. In the polarograms of solutions of the chromo-aromatic compounds one diffusion induced wave is observed. The diffusion current is proportional to the concentration of the chromo-aromatic compounds. The half-wave potentials are independent of the electrolyte character, the pH and the position of the methyl group in the xylene derivatives. Their value depends on the substituents in the aromatic ring as was the case in other chromoaromatic compounds of the sandwich structure. The number of electrons taking part in the electrode reaction, as determined from the Heyrovsky-Ilkovich equation equals one. The process is reversible. The authors conclude that the chromoaromatic compounds are reduced on the dropping mercury cathode in an adsorbed state, accepting one electron and passing into the neutral state. There are 3 figures, 1 table and 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: W. Herwig, W. Metlesies and H. Zeiss, J. Am. Chem. Soc., 81, 6203, 1959. ✓

Card 2/3

Reduction of the sandwich type ...

33925  
S/079/62/032/001/001/016  
D205/D302

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N.I. Lobachevskogo (Gor'kiy State University im. N.L. Lobachevskiy)

SUBMITTED: January 9, 1961

Card 3/3

KORSHUNOV, I.A.; VERTYULINA, L.N.; DOMRACHEV, G.A.

Reduction of chromium aromatic compounds of a sandwichlike structure  
on dropping mercury cathode. Zhur. ob. khim. 32 no.1:9-12 Ja '62.  
(MIRA 15:2)

1. Gor'kovskiy gosudarstvennyy universitet imeni N.I.Lobachevskogo.  
(Chromium organic compounds) (Reduction, Electrolytic)



VERTYULINA, L.N.; KORSHUNOV, I.A.

Polarographic determination of hexamethyldiiodine in tetraethyllead.  
Khim.nauka i prom. 4 no.1:136 '59. (MIRA 12:5)

1. Nauchno-issledovatel'skiy institut khimii pri Ger'kovskom  
gosudarstvennom universitete.  
(Lead organic compounds) (Polarography)

KORSHUNOV, I.A.; VERTYULINA, L.N.; RAZUVAYEV, G.A.; SORCKIN, Yu.A.;  
DOMRACHEV, G.A.

Polarographic reduction of some chromium aromatic compounds of  
sandwich structure. Dokl.AN SSSR 122 no.6:1029-1031 0 '58.  
(MIRA 11:12)

1. Nauchno-issledovatel'skiy institut khimii Gor'kovskogo  
gosudarstvennogo universiteta imeni N.I. Lobachevskogo. 2. Chlen-  
korrespondent AN SSSR (for Razuvayev).  
(Chromium organic compounds) (Reduction, Chemical)  
(Polarography)

5(1, 2)

AUTHORS:

Korshunov, I. A., Vertyulina, L. N., SOV/20-122-6-20/49  
Razuvayev, G. A., Corresponding Member, AS USSR,  
Sorokin, Yu. A., Domrachev, G. A.

TITLE:

Polarographic Reduction of Some Chromium Aromatic Compounds  
of Sandwich Structure (Polyarograficheskoye vosstanovleniye  
nekotorykh khromaromaticheskikh soyedineniy sendvichevogo  
stroyeniya)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 6,  
pp 1029-1031 (USSR)

ABSTRACT:

While the polarographic behavior of the bis-cyclopentadienyl  
compounds was described sufficiently in detail (Ref 1), there  
is one paper only (Ref 2) on the reduction of the cation  
 $((C_6H_5)_2Cr)^+$ . As in the laboratory of the authors  
dibenzene-(I)-, ditoluene-(II), dimesitylene-(III)-and  
bis-diphenyl chromium-(IV) iodide were prepared, furthermore  
the dicumene-(V)-and di-(cyclohexyl benzene)-chromium iodides-  
(VI) not described in publications, it was interesting to  
study the polarographic reduction of this series of compounds.  
The synthesis (according to Ref 3) of the above-mentioned

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Polarographic Reduction of Some Chromium Aromatic  
Compounds of Sandwich Structure

SOV/20-122-6-20/49

derivatives ((I)-(VI)) is described together with the yields computed and ascertained. From the concentrated solution of dicumene chromium the compound (V) was precipitated as a cherry-red viscous oil by adding saturated aqueous KJ-solution. The authors did not succeed in crystallizing it. (V) is well soluble in low alcohols, acetone, methylene chloride, dichloro ethane, pyridine, dimethyl formamide, whereas it is practically insoluble in ether,  $\text{CCl}_4$ , water and benzene.

(VI) is synthesized by a similar method. (VI) was isolated as a dark-red powder from the reaction mixture (with an addition of 50 ml purified n-nonane) by heating for 1.5 hours at  $150^\circ$ . Its solubility in the solvents mentioned in connection with (V) is the same as that of (V). The polarographic investigations of the iodides ((I)-(VI)) were carried out by means of the visual polarograph, which is manufactured by the institute mentioned in the Association. The reduction was carried out on the background of several 0.5 N aqueous electrolytes of lithium chloride, sodium hydroxide, potassium nitrate, sodium sulfate, hydrochloric acid and buffer

Card 2/4

Polarographic Reduction of Some Chromium Aromatic  
Compounds of Sandwich Structure

SOV/20-122-6-20/49

solutions with pH from 2.3 to 11.75 (Fig 2). The chromium aromatic compounds produce diffusion currents in almost all above-mentioned electrolytes. An exception are hydrochloric acid and the buffer solutions with a pH-value below 2, in which they are precipitated or (e. g. (II)) do not develop any reduction waves. All iodides are reduced within one wave (Fig 1). From the study of the results obtained it can be concluded that the introduction of the alkyl-(V) or cyclohexyl-(VI) substituent into the aromatic nucleus does not exercise considerable influence upon the quantity of the semiwave-potential. In the transition from (II) to (III) the semiwave is shifted only slightly into the direction of the negative values as compared with (I). In the introduction of an aromatic substituent (IV), however, a marked shift of the potential into the range of positive values takes place. For the time being, it is still difficult to reconcile the polarographic results with the data obtained by other methods. The polarographic method, however, can play a certain role in the investigation of the nature of the class of

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Polarographic Reduction of Some Chromium Aromatic  
Compounds of Sandwich Structure

SOV/20-122-6-20/49

compounds in question. There are 3 figures and 4 references,  
1 of which is Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii Gor'kovskogo  
gosudarstvennogo universiteta im. N. I. Lobachevskogo  
(Scientific Research Institute of Chemistry of the Gor'kiy  
State University imeni N. I. Lobachevskiy)

SUBMITTED: June 17, 1958

Card 4/4

VERTYULINA, L. N.,

79-2-3/54

**AUTHORS:** Vertyulina, L. N. , Malyugina, N. I.

**TITLE:** Reduction of Nitrophenols on a Multidrop Mercury Cathode (Vosstanovleniye nitrofenolov na mnogokapel'nom rtutnom katode)

**PERIODICAL:** Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 304 - 308 (USSR)

**ABSTRACT:** The reduction on a mercury droplet electrode was by many authors investigated for the purpose of the determination of quantity and of the reduction mechanism (reference 1 - 9). The authors used the apparatus with a multidrop mercury cathode described by Neyman et al. (reference 13), where some modifications necessary for the investigation were made. For comparing the results of the electroreduction of nitrophenols in water- and aqueous alcohol solutions the conditions of the electrolysis were left unchanged. The electrolysis was performed at a higher potential than that of the saturation current, in the case of p-nitrophenol with 2,2 V and in m- and o-nitrophenol with 1,8 V. The percentage of the reduction products represents the mean value from several experiments. The accuracy in the determination of the reduction products amounted to 5 - 6 % (relatively). Conclusions: 1) As a result of the study of the reduction of o-, m- and p-nitrophenols on a multidrop mercury cathode it was determined that in water- and aqueous alcohol

Card 1/3

79-2-3/54

# Reduction of Nitrophenols on a Multidrop Mercury Cathode

solutions with pH from 2 to 2,5 the nitrophenols are mainly reduced to o- and p-aminophenols. p- and o-imino-quinone in small amounts form as intermediate products. In the case of m-nitrophenol the hydroxylamine derivative of m-nitrophenol and the m-aminophenol occur as reduction products. They almost form in equal amounts.

2) The yield of the reduction products on the multidrop mercury cathode is in the case of p- and m-nitrophenols in aqueous alcohol solutions smaller than in water solutions. The small yield, observed in these tests, of reduction products of p- and m-nitrophenols in aqueous alcohol solutions may probably be explained by the formation of an intermolecular hydrogen bond. This develops in the aqueous alcohol solutions with the aid of alcohol molecules, is more stable than in water solutions and obstructs the reduction (reference 20). o-nitrophenol forms an innermolecular hydrogen bond, which, as is already known (references 1 and 20) influences the reduction of the nitrogroup as well in water - as in aqueous alcohol solutions. The authors thank I. A. Korshunov for valuable advices in the performance of the work. There are 1 table, and 20 references, 11 of which are Slavic.

Card 2/3



Reduction of Nitrophenols on a Multidrop Mercury Cathode

79-2-3/64

ASSOCIATION: State University, Gor'kiy  
(Gor'kovskiy gosudarstvennyy universitet)

SUBMITTED: February 26, 1957

AVAILABLE: Library of Congress

Card 3/3

KORSHUNOV, I.A., VERTYULINA, L.N.

Reduction of certain sulfonamide compounds at the dropping  
mercury electrode. Zhur. ob. khim. 31 no.4:1056-1062 Ap '61.  
(MIRA 14:4)

1. Nauchno-issledovatel'skiy institut khimii pri Gro'kovskom  
gosudarstvennom universitet imeni N. I. Lobachevskogo.  
(Sulfamide)  
(Reduction, Electrolytic)

VERTYULINA, L.N.; MALYUGINA, N.I.

Reduction of nitrophenols on the multiple drop mercury cathode.  
Zhur.ob.khim. 28 no.2:304-308 F '58. (MIRA 11:4)

1.Gor'kovskiy gosudarstvennyy universitet.  
(Reduction, Chemical) (Phenol)  
(Electrodes, Dropping mercury)

VERTYULINA, L. N.

VERTYULINA, L. N. — "A Study of the Mechanism of Reducing Ortho-, Meta-, and Para-Nitrophenols, and Meta-Nitro Benzolsulfonic Acid on a Mercury Cathode." Sci Res Inst of Chemistry, Gor'kiy State U. Gor'kiy, 1955. (Dissertation for the Degree of Candidate in Chemical Sciences)

SOURCE Knizhnaya Letopis', No 6 1956

Reduction of *m*-nitrobenzenesulfonic acid on a dropping mercury cathode. I. A. Egorov, L. N. Vertinskaya, and M. I. Galunina (Sverdlovsk. Univ., Sverdlovsk, USSR). *Khim. Zh.* 28: 281-2 (1955). Polarographic reduction of *m*-O<sub>2</sub>NCH<sub>2</sub>SO<sub>3</sub>H (I) was studied from  $0.1 \times 10^{-3}$  to  $1.18 \times 10^{-2}$  M concn. in buffers with pH from 2.03 to 13.0, at 25°C. the potentials were detd. with a satd. calomel electrode as the anode, the potential of this being assumed to be zero for reference. In solns. from acidic to those with pH 11, only 1 diffusion wave was observed, while from pH 8 to 12, 2 waves appeared. In the latter case, from pH 8 to 9.4, the 2nd wave had 1/4 the height of the total wave, while at pH 9.7-12.0 it was 0.5 of the total wave. Diffusion current was linear in respect to concn. in all cases. In neutral or weakly acidic solns. the diffusion current passed through a min. at pH 4.0; at higher pH values (weakly basic solns.) diffusion current of the 1st wave had a min. at pH 9 while the diffusion current of the 2nd wave passed through a max. at this pH; the max. of the diffusion current of the first wave had a max. at pH 10. These results indicated adsorption phenomena. The half-wave potential up to pH 8.5-9 rose linearly with pH:  $E_{1/2} = -0.05 - 0.068 \text{ pH}$ ; in more basic solns. the half-wave potential of the first wave was relatively const. at about 0.65 v., while the 2nd wave followed the relation  $E_{1/2} = -1.88 + 0.1 \text{ pH}$ . The 2 values thus merged at about pH 12. The no. of electrons involved calcd. from the Heyrovsky-Ilavik equation was 1 for the 1st wave and 0.4 for the 2nd, indicating possible irreversibility of the electrode reaction. If the reduction actually required 6 electrons, as indicated by many potentiographic studies, the calcn. of a diffusion coeff. at pH 2 gave

5

*O. A. Kuznetsov*

the value of  $C \times 10^{-4}$  sq. cm./sec., which agreed with the values for similar org. mols. Electrocapillary curves of IIg at pH 4.1 in the presence of I were shown; the influence of I was apparent in the ascending branch of the curve at not too great neg. potentials of the electrode. For estn. of I, the use of KOH was recommended; with 5% KOH the diffusion wave occurred at a potential near -0.8 to 0.9 v. The resulting amino acid did not interfere. Accuracy of some 5% was possible. Also in *J. Gen. Chem. (U.S.S.R.)* 25, 245-8 (1955) (Engl. translation). O. M. Kozolapov

2/2

1ST AND 2ND CROSS										3RD AND 4TH CROSS									
PROCESSES AND PROPERTIES INDEX																			
<p><i>BE</i></p> <p style="text-align: right;"><i>B-I-4</i></p> <p><b>Zinc electroplating of small objects. J. I. VERTMAN (J. Appl. Chem. Russ., 1938, 11, 604-630).—Satisfactory results were not obtained with acid baths. Uniform, adherent deposits were obtained on objects of highly irregular profile, using the following bath: ZnO 43, NaCN 130, NaOH 30, sulphurated castor oil 5 g. per l. (pH 12.4-12.5), with a c.d. of 5-10 amp. per sq. dm., at 40°, in a revolving drum. The plated surface is passivated by treatment with 10% aq. <math>\text{CrO}_3</math> (10 sec.) or <math>\text{K}_2\text{Cr}_2\text{O}_7</math> (25-30 sec.). R. T.</b></p>																			
<p><b>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</b></p> <p>FROM SYNONYM ————— COLLECTION —————</p> <p>SYNONYM ————— COLLECTION —————</p>																			

COMMON ELEMENTS										COMMON VARIABLE INDEX									
PROCESS AND PROPERTIES INDEX																			
<p>BC</p> <p>B-I-7</p> <p>Deposition of free alkalis in the electro-lysis of J. L. Vanneman (Rev. Lab. 1937, G. 372). Influence of <math>\text{Na}_2\text{CO}_3</math> added to the dilute electrolyte, the ppt. of <math>\text{NaCO}_3</math> and <math>\text{NaHCO}_3</math> collected and washed. <math>\text{O}_2</math> and <math>\text{H}_2</math> evolved in the dilute + washings, and amount of acid titrated. R. T.</p>																			
<p>ASAC-11A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
FROM STORAGE										RELATIONS									
LARGE #1										SMALL #1									
10000 100 10 1 0.1 0.01 0.001 0.0001 0.00001 0.000001 0.0000001 0.00000001 0.000000001 0.0000000001										10000 100 10 1 0.1 0.01 0.001 0.0001 0.00001 0.000001 0.0000001 0.00000001 0.000000001 0.0000000001									



B-1-5

**Processes and Properties**

**Metallurgical Literature Classification**

**ASM-A6 METALLURGICAL LITERATURE CLASSIFICATION**

**1950-1959**

**1960-1969**

**1970-1979**

**1980-1989**

**1990-1999**

**2000-2009**

**2010-2019**

**2020-2029**

**2030-2039**

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**2090-2099**

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6

Control of Quality of Galvanostatic Zinc Plating. J. L. Vertanen (Zarod-  
skaya Laboratoriya (Works' Lab.). 1934. S. 944-946; *BTU, Chem. Abs.*, 1936,  
[11], 65).—[In Russian.] A drop of 9N sulphuric acid is placed on the zinc  
surface, washed off after 30 seconds, the plate dried, and the process repeated  
until the underlying metal becomes visible; the thickness in mm. of the zinc  
coating = the number of drops  $\times$  0.004 — 0.006.—S. G.

ASR-5LA METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

SAVED

DATE

TIME

BY

REMARKS

CLASSIFICATION

DATE

TIME

BY

REMARKS

1ST AND 2ND CODES										PROCESSES AND PROPERTIES INDEX									
<p>Control of the quality of zinc electroplating. Va. L. Vertman. <del>Zavodskaya</del> Lab. 3, 044-6(1974). A drop of 5 N H<sub>2</sub>SO<sub>4</sub> is allowed to rest 30 sec. on a cleaned surface and it is washed with H<sub>2</sub>O and dried with filter paper. The operation is repeated until the Fe surface is discolored. The no. of drops used indicates the relative thickness of the Zn coating.</p>										<p>Chas. Blanc</p>									
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>										<p>CLASSIFICATION</p>									
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SIGOV, I.V.; VERUGA, V.F.

Standardization of reducing gears and electric-motor reducers.  
Standartizatsiia 27 no.2:12-14 F '63. (MIRA 16:4)  
(Gearing)

SIGOV, I.V., kand.tekhn.nauk; VERUGA, V.F., ingh.

Planetary reducing gears manufactured abroad. Vest.mashinostr. 43 no.4:  
81-86 Ap '63. (MIRA 16:4)

(Gearing)

SIGOV, I.V., kand.tekhn.nauk; VERUGA, V.F., inzh.; VOLOVA, T.A., inzh.

Motor-reducers based on high-speed electric motors. Vest.  
mashinostr. 42 no.8:49 Ag '62. (MIRA 15:8)  
(Electric driving)

L 044.70-67 EWP(e)/EWT(m) WH

ACC NR: AT6016928

SOURCE CODE: UR/00'2/66/000/005/0019/0021

AUTHOR: Kutateladze, K. S. (Doctor of technical sciences); Verulashvili, R. D.  
(Candidate of technical sciences)

ORG: Tbilisi Scientific Research Institute of Structural Materials (Tbilisskiy nauchno-issledovatel'skiy institut stroymaterialov)

TITLE: Glass composition based on perlite for production of high-voltage insulators

SOURCE: Steklo i keramika, no. 5, 1966, 19-21

TOPIC TAGS: electric insulator, insulating material, glass, dielectric material

ABSTRACT: The authors study the insulating properties of perlite-based glasses with the following compositions (in %): 55-59 SiO<sub>2</sub>, 0.1-0.5 TiO<sub>2</sub>, 8-10 Al<sub>2</sub>O<sub>3</sub>, 0.5-2 Fe<sub>2</sub>O<sub>3</sub>, 6-7 MnO, 9-10 CaO, 5-6 MgO, 2.5-4 K<sub>2</sub>O and 2.3-8 Na<sub>2</sub>O. All compositions were founded in two-liter fireclay vessels at 1440-1480° for two hours. A table is given comparing the dielectric indices and a number of other physical and chemical characteristics of these glasses with the properties of 13v glass and glass made by the L'vov Plant No. 1. The perlite glasses show dielectric characteristics as good as those of low-alkali 13v glass and are even superior with respect to some indices (low sensitivity of tanδ to changes in temperature). The effect of R<sub>2</sub>O additives on the dielectric properties of perlite glass is studied. It is found that the addition of 6-7% Na<sub>2</sub>O causes a

UDC: 666.18.6

Card 1/2



L 04470-67

ACC NR: AT6016928

considerable reduction in the volumetric resistivity of the glass. The resistivity then begins to increase with sodium oxide concentration reaching a maximum at 10-11% which may be due to the neutralization effect of potassium oxide in the glass composition. This effect begins to disappear at a sodium oxide concentration of 15-17%. One of the most important properties of the perlite glasses is their resistance to change in the tangent of the dielectric loss angle with changes in temperature from 20 to 70-80° in spite of the high concentration of alkali oxides (up to 20%). Another important advantage of the new glasses is that the concentration of Na<sub>2</sub>O and K<sub>2</sub>O is not critical with respect to high-voltage insulating properties of the glasses. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 000

Card 2/2 *eqh*

ACC NR: AP7005417

SOURCE CODE: UR/0072/66/000/011/0024/0027

AUTHORS: Kutateladze, K. S. (Doctor of technical sciences); Varulashvili, R. D. (Candidate of technical sciences)

ORG: Tbilisi Scientific Research Institute for Building Materials (Tbilisskiy nauchno-issledovatel'skiy institut stroymaterialov)

TITLE: Electric insulating pyroceramics derived from rocks

SOURCE: Staklo i keramika, no. 11, 1966, 24-27

TOPIC TAGS: electric insulator, ceramic material, ceramic dielectric

ABSTRACT: The rocks perlite, serpentinite, and dolomite were investigated for their suitability as raw materials in the production of pyroceramics. The investigation supplements the results of S. I. Sil'vestrovich et al. (Zhurnal VKhO imeni D. I. Mendeleeva, 1960, t. 5, No. 2). The physical and chemical properties of two series of mixtures consisting of various amounts of perlite and serpentinite, and perlite, dolomite, and quartz sand, respectively, were studied. The mixtures were subjected to chemical analysis, x-ray spectroscopy, electron microscopy, and thermogravimetric analysis. In addition, the electrical properties of the specimens were determined. The experimental results are summarized in graphs and tables. It was found that mixtures consisting of perlite, dolomite, and quartz sand yielded the most satisfactory high-voltage electric insulators. Orig. art. has: 3 tables and 2 graphs.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001  
Card 1/1 UD: 666.117.3:546

VERULASHVILI, Sh. A. Cand Tech Sci -- (diss) "Study of the basic problems of  
the technology of ~~mechanized inter-row~~ <sup>summer-time</sup> <sup>soil</sup> cultivation <sup>in the tea plantation</sup> <sup>(in rows)</sup>  
~~the summer~~ Tbilisi, 1957. 23 pp (Min of Agr USSR. Georgian Order of Labor Red  
Banner Agr Inst). (KL, 3-58, 97)

VERULASHVILI, Sh.A., aspirant

Investigating fundamental problems of the technology of summer  
mechanized intertillage in tea plantations. Biul. VNIICHISK  
no.1:51-75 '57. (MIRA 15:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut chaya i  
subtropicheskikh kul'tur.  
(Georgia--Tea machinery)

KOGOY, T.F. (Moskva); IVANOVSKAYA, T.Ye. (Moskva); KHOKHLOVA, Z.Ye.,  
(Moskva); VERULASHVILI, V.I. (Moskva)

Pathological anatomy in experimental toxoplasmosis of pregnant  
animals. Arkh. pat. 27 no.6:61-67 '65. (MIRA 19:1)

1. Kafedra patologicheskoy anatomii (zav. - deystvitel'nyy chlen  
AMN SSSR prof. I.V. Davydovskiy) II Moskovskogo meditsinskogo  
instituta imeni N.I. Pirogova i rodil'nyy dom No. 1 (glavnyy vrach  
V.I. Verulashvili), Kutaisi. Submitted January 8, 1964.

VERULASHVILI, V.I.

Effect of acute and chronic toxoplasmosis on the course of pregnancy under experimental and clinical conditions. Soob. AN Gruz. SSR 30 no.1:67-74 Ja '63. (MIRA 17:1)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR. Predstavleno ohlenom-korrespondentom Akademii A.N. Bakuradze.

VERULASHVILI, V.I., kand. med. nauk

Toxoplasmosis in obstetrics. Akush. i gin. 39 no.3:40-44  
My-Je'63 (MIRA 17:2)

1. Iz kafedry akusherstva i ginekologii (zav. - chlen-korrespondent AMN SSSR prof. L.S. Persianinov) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova, laboratorii vozrastnoy fiziologii i patologii (zav. - prof. I.A. Arshavskiy) Instituta normal'noy i patologicheskoy fiziologii (direktor - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR i roditel'nogo doma No.1 Kutaisi (glavnyy vrach - kand. med. nauk V.I.Verulashvili).

VERULASHVILI, V.I. (Moskva)

Determination of C-reactive protein in toxoplasmosis under experimental and clinical conditions. Pat. fiziol. i eksp. terap. 7 no.1:75-76 Ja-F'63. (MIRA 16:10)

1. Iz laboratorii vozrastnoy fiziologii i patologii (zav. - prof. I.A. Arshavskiy) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR i kafedry akusherstva i ginekologii (zav. - chlen - korrespondent AMN SSSR, zasluzhennyy deyatel' nauki BSSR, prof. L.S. Persianinov) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.  
(BLOOD PROTEINS) (TOXOPLASMOSIS)  
(PREGNANCY, COMPLICATIONS OF)



VERULASHVILI, V. I., Candidate Med Sci (diss) -- "Material on the dynamics of oxidation-reduction processes in various gynecological hemorrhages in connection with treatment". Tbilisi, 1959. 20 pp (Tbilisi State Med Inst), 200 copies (KL, No 22, 1959, 121)

VERULASHVILI, V.I.

Experimental analysis of the state of permeability of the placental barrier in toxoplasmosis during normal and pathological pregnancy. Biul. eksp. biol. i med. 56 no.12:44-48 D '62. (MIRA 17:11)

1. laboratoriya vozrastnoy fiziologii i putologii (zav. - prof. I.A. Arshavskiy) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva.

VERUNAC, V.

Creation in the field of technology. p.117.

(Sbirka Vynalezu, Vol. 6, No. 6, June 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 9, Sept. 1957. Uncl.

VERUSHKIN, S. M.

On the hybridization of Triticum by Agropyrum, Saratov, 1935. 37 p. Text in Russian.

1. Plant - breeding. 2. Hybridization, Vegetable.

ZACHOVAL, J.; KALAL, J.; VERUOVIC, B.

On the nature of complex catalysts from cobalt (III)-chloride, pyridine and diethylaluminum chloride for the stereospecific butadiene polymerization. Coll Cz Chem 28 no. 12:3450-3451 D '63.

1. Technische Hochschule fur Chemie, Prag.

VERUOVIC, Budimir

Preparation of cation exchange resins selective to iron. Chem prum  
14 no.4:189-191 Ap '64.

1. Higher School of Chemical Technology, Prague.

S/081/62/000/023/109/120  
B101/B186

AUTHOR: Veruović, Budimir

TITLE: Method of producing a complex-forming cationite for the selective substitution of alkali metals

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 745, abstract 23P493 (Czechosl. pat. 96919, October 15, 1960)

TEXT: This patent concerns a method of producing cationites for the selective substitution of alkali metals; 3,5-diaminophenol tetraacetic acid is condensed with formaldehyde in basic medium until a resinous complex is formed. 2 g phloroglucinol and 6 g sodium amino diacetate are heated by a reflux condenser in aqueous-alcoholic solution for 4-12 hrs. The dark-blue solution is acidified with hydrochloric acid and the precipitated acid is recrystallized from water. 2 g of this acid is alkalinized with 3 N NaOH solution, 25 ml 40% formalin is added, and heating at 75°C is performed for 12 hrs with constant stirring. The resulting resin is polymerized under IR irradiation. The substituting capacity is 3.5 milliequivalents Ca per g dry resin. [Abstracter's note: Complete

Card 1/2

S/081/62/000/023/109/120  
Method of producing a complex-forming... B101/B186  
translation.]

Card 2/2



L 45415-66 EWP(J)/I RM

ACC NO: AP6028305 (A) SOURCE CODE: CZ/0009/66/000/006/0344/0347

37B

AUTHOR: Veruovic, Budimir; Zachoval, Jaromir

ORG: College of Chemical Technology, Prague (Vysoka skola chemickotechnologicka)

TITLE: Stereospecific polymerization<sup>1</sup> of butadiene<sup>1</sup> by the catalytic system from diethyl aluminum chloride and rhodium triacetyl acetate

SOURCE: Chemicky prumysl, no. 6, 1966, 344-347 and appropriate inserts preceding p. 319

TOPIC TAGS: butadiene, polymerization, aluminum, rhodium, stereospecific polymerization

ABSTRACT: Butadiene polymerization has been studied using diethyl aluminum chloride and rhodium triacetyl acetate as the catalytic system in a water-free medium. The resulting polybutadiene has an above-98% 1,4-trans structure. Polymerization takes place with a ratio of Al:Rh  $> 3$ . The optimum ratio Al:Rh is 15. Conversion depends on the concentration of the catalytic components and on temperature. No inhibition period has been observed. The limiting vis-

Carc 1/2

UDC: 678.771.24

L 45415-66

ACC NR: AP6028305

osity number increases with the concentration of rhodium triacetyl acetate and decreases with a rise in temperature. Orig. art. has: 11 figures. [Based on authors' abstract.] [KS]

SUB CODE: 11/ SUBM DATE: 21Jan66/ ORIG REF: 001/ SOV REF: 001/  
OTH REF: 012/

hs

Card: 2/2

VERVEYKINA, A.K., inzh.; KOLCHINSKIY, Yu.L., inzh.; NIKOLAYEVSKIY,  
Ye.Ya., inzh.; RODIONOVA, R.G., inzh.; RYAPOLOV, A.F., inzh.;  
SOKOL, I.A., inzh.; STERLIN, S.L., inzh.; EYDEL'NANT, L.B.,  
inzh.; ORLOV, V.M., kand. tekhn. nauk retsenzant; YURGEL', B.I.,  
inzh., retsenzent; FOKIN, V.Ya., inzh., nauchn. red.; VOLNYANSKIY, A.K.  
red.; MARKOV, I.I., red.; MEL'NIK, V.I., red.; UNKIN, A.K.,  
red.; STAROVEROV, I.G., red.; TUSHNYAKOV, M.D., red.; CHERNOV,  
A.V., red.; SUDAKOV, G.G., red.; IOSELOVSKIY, I.V., red.

[Technological pipings in industrial enterprises] Tekhnologi-  
cheskie truboprovody promyshlennykh predpriyatii. Moskva,  
Stroizdat. Pt.1. 1964. 784 p. (MIRA 18:9)

VERVEYKINA, A.K., inzh.; KOLCHINSKIY, Yu.L., inzh.; NIKOLAYEVSKIY, Ye.Ye., inzh.; RODIONOVA, R.G., inzh.; RYAPOLOV, A.F., inzh.; SOKOL, I.A., inzh.; STERLIN, S.L., inzh.; EYDEL'NANT, L.B., inzh.; ORLOV, V.M., kand. tekhn. nauk, retsenzent; YURGEL', B.I., inzh., retsenzent; FOKIN, V.Ya., inzh., nauchn. red.; VOLNYANSKIY, A.K., glav. red.; SUDAKOV, G.G., zam. glav. red.; IOSELOVSKIY, I.V., red.; MARKOV, I.I., red.; MEL'NIK, V.I., red.; ONKIN, A.K., red.; STAROVEROV, I.G., red.; TUSHNYAKOV, M.D., red.; CHERNOV, A.V., red.

[Engineering pipelines for industrial enterprises] Tekhnologicheskie truboprovody promyshlennykh predpriyatii. Moskva, Stroizdat, 1964. 2 v. (MIRA 17:12)

VERUOVIC, Budimir; KALAL, Jaroslav; ZACHOVAL, Jaromir

Butadiene polymerization through the action of diethylaluminum  
chloride and cobalt acetylacetonate. Chem prum 15 no.1:22-25  
Ja '65.

1. Chair of Macromolecular Chemistry of the Higher School  
of Chemical Technology, Prague.

VERVEYKO, N.D. (Voronezh); ZNAMENSKIY, V.A. (Voronezh)

Flow of an elastoplastic medium in a curved circular pipe in case of a  
constant pressure drop. Izv. AN SSSR. Mekh. no.5:169-171 S-O '65.  
(MIRA 18:10)

VERVOORST, P. and Friedrich, W.

A New Class of Initiating Explosives--The Ammonium and Hydrazine Compounds of Bivalent Heavy Metal Chlorates and Perchlorates.

Z. ges. Schiess-Sprengstoffw., V. 21, 1926, pp. 49-52, 65-9, 84-7, 123-25, 143-46, 103-5.

Chem. Abst., Vol. 21, P. 1184, 1927.

The metal amines of chlorates and perchlorates of Cu, Cd, Ni, Co and Zn were prepd. by passing  $\text{NH}_3$  over the metallic chlorate or perchlorate soln. with cooling and agitation filtering and drying the pptd. salt. These compds. have explosive properties between those of primary explosives such as  $\text{Hg}(\text{ONC})_2$  and secondary explosives such as tetryl. The tetram nocopper chlorate,  $\text{Cu}(\text{ClO}_3)_2 \cdot 4\text{NH}_3$  was, however, the only one of the 10 amino-chlorates capable of initiating the detonation of TNT or tetryl. They are deliquescent and hydrolyze rapidly, even in moist air, losing  $\text{NH}_3$ .  $\text{Ni}(\text{ClO}_4)_2 \cdot 6\text{NH}_3$  has a rate of detonation of 5300 m. per. sec. The chlorate compds. are more sensitive than the corresponding perchlorate compds. Corresponding hydrazinates were prepd. by adding a soln. of hydrazine hydrate in  $\text{H}_2\text{O}$  or  $\text{EtOH}$  to a soln. of the metallic chlorate or perchlorate, with cooling and agitation, washin and drying the ppt. at low temp. Of these the following have never before been prepd:  $\text{Ni}(\text{ClO}_3)_2 \cdot 3\text{N}_2\text{H}_4$ ;  $\text{Ni}(\text{ClO}_4)_2 \cdot \text{Ni}(\text{ClO}_4)_2 \cdot \text{NiClO}_4 \cdot \text{OH} \cdot 5\text{N}_2\text{H}_4 \cdot 3\text{H}_2\text{O}$ ; and  $\text{Cd}(\text{ClO}_4)_2 \cdot \text{Cd}(\text{OH})_2 \cdot 3\text{N}_2\text{H}_4 \cdot 2\text{H}_2\text{O}$ . The hydrazinates of the metal chlorates are very sensitive and unstable explosives, the Cu compd. detonating on drying at room temp. The hydrazinates of the perchlorates are less sensitive especially that of Cd. They are more sol. in  $\text{H}_2\text{O}$  and hydrolyze readily. The results of the various tests made on the 21 compds. investigated are summarized in a tabulation together with results of comparison tests on several well-known primary and secondary explosives. These tests include ignition temp., sensitiveness to impact, Trauzl. lock test, and detn. of initiating charges required for TNT, tetryl and trinitroanisole. Methods of conducting the tests

VERYASOVA, M. P.

15-57-4-4122

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4, pp 11 (USSR)

AUTHORS: Tikhvinskaya, Ye. I., Krupin, V. I., Sokolov, M. N., Vinokurov, V. M.,

Varyasova, M. P., Mal'kovskiy, F. M., Grigor'yeva, T. Ye.

TITLE: "Stratigraphy and Facies Relations in the Permian Deposits of the Tatarskaya ASSR

(Osnovy stratigrafii i fatsial'nogo slozheniya permakikh othozheniy Tatarskoy ASSR)"

PERIODICAL: Uch. zap. Kazansk. gos. un-ta, 1955, Vol 115, Nr 10, pp 113-117

ABSTRACT: The Permian deposits of the Tatarsiya are divided into the Lower Permian (250 m to 300 m thick), represented by the Schwagerina, Tastuba and Sterlitamak horizons of the Sakmara stage, and also by the Artinskian and Kungurian stages. The authors point out the limited distribution of the Artinskian series, completely developed (80 m) only at the extreme eastern edge of Tatarsiya, where it is subdivided into two horizons. The lower of these two horizons is composed of anhydrite and dolomite. The Kungurian series also has a restricted distribution. It consists of carbonate-sulfate-clay deposits (up to 20 m). The Ufa series, with a thickness ranging from 0 to 140 m and more (on the east) is referred to the Upper Permian. The Kazanian deposits are separated into an upper and a lower Kazanian. The Yadrenogo Kamnya series occurs at the base of the upper Kazanian. The lower Kazanian sequence is divided into three horizons. In the "zone of upper piedmont deposits," these are insular, deltaic-littoral, and red-bed formations. The lower Kazanian rests on an eroded surface in the Ufa series or on the Lower Permian. There are intraformational erosional zones in the upper Kazanian, the largest of which subdivide the deposits into three principal rhythmic units. The Tatarian stage (200 m to 250 m thick) is divided into two substages. The upper substage shows evidence of strong surface erosion. The lower substage contains sediments formed in a residual freshened basin.



X VERYASOVA, M.P.

TIKHVINSKAYA, Ye.I. (Kazan'); KRUPIN, V.I. (Kazan'); VINOKUROV, V.M. (Kazan');  
SOKOLOV, M.N. (Kazan'); ~~VERYASOVA, M.P. (Kazan')~~; MAL'KOVSKIY, F.S.  
(Kazan'); GREGOR'YEVA, T.Ye. (Kazan')

Stratigraphy and facies structure of Permian deposits in the Tatar  
A.S.S.R. Uch.zap.Kaz.un. 115 no.10:113-117 '55. (MIRA 10:5)  
(Tatar A.S.S.R.--Geology, Stratigraphic)

VERYASOVA, Z.A., assistant

Premature births according to clinical data for five years  
(1956-1960). Nauch. trudy SamMI 22:118-127 '63.

Vitamin C content in the blood of the mother and the fetus,  
in the placenta and the urine in premature births.  
Ibid.:128-132 (MIRA 17:9)

1. Iz kafedry akusherstva i ginekologii Samarkandskogo  
meditsinskogo instituta.

VERYATIN, U.D.; MASHIREV, V.P.; RYABTSEV, N.G.; TARASOV, V.I.;  
ROGOZKIN, B.D.; KOROBV, I.V.; ZEFIROV, A.P., doktor  
tekhn. nauk, red.; MURADOVA, A.A., red.

[Thermodynamic properties of inorganic substances; a manual]  
Termodinamicheskie svoistva neorganicheskikh veshchestv;  
spravochnik. Moskva, Atomizdat, 1965. 459 p. (MIRA 18:12)

VEHYATIN, Uriy Davidovich 4- Sr Sci Assoc in the specialty of Technology of Rare and Non-Ferrous Metals -- 21 May 58, Prot No 25P  
(BAVO, 10-58,25)

~~58-12-58~~  
~~10-58,25~~

PHASE I BOOK EXPLOITATION

80V/3830

Galkin, N.P., A.A. Mayorov, and U.D. Veryatin

Tekhnologiya pererabotki kontsentratorov urana (Technology of Processing Uranium Concentrates) Moscow, Atomizdat, 1960. 162 p. Errata slip inserted.  
4,000 copies printed.

Ed.: T.P. Kalyuzhnaya; Tech. Ed.: Ye. I. Mazel',

PURPOSE: This book is intended for chemical engineers and technicians in uranium production.

COVERAGE: The book presents the theory and description of processes in the treatment of uranium concentrates to obtain pure salts and uranium metal. The authors discuss the applications of uranium, the properties of uranium and its ions in solution, methods for the production and refining of uranium concentrates, methods for the preparation of uranium tetrafluoride, the preparation of uranium metal, and measures for ensuring the safety of personnel in uranium manufacturing. The author also cites earlier books on uranium by Dzh. Kats and Ye. Rabinovich, S.Ye. Bresler, O.A. Songina, and I.P. Kislyakov. There are

Card 1/6

Technology of Processing Uranium Concentrates

80V/3830

261 references: 91 Soviet, 101 English, 36 French, 27 German, 4 Italian, and 2 Swedish

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Ch. III. Brief Survey of the Properties of Uranium and its Ions in Solution	13
1. Position of Uranium in D.I. Mendeleev's periodic system	13
2. Electron configuration; atomic and ionic radii of uranium	14
3. Isotopic structure	14
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PHASE I BOOK EXPLOITATION

SOV/5820

Galkin, N. P., A. A. Mayorov, U. D. Varyatin, B. N. Sudarikov,  
N. S. Nikolayev, Yu. D. Shishkov, A. B. Krutikov

Khimiya i tekhnologiya ftoristykh soedineniy urana (Chemistry and Technology of Uranium Fluoride Compounds) Moscow, Gosatomizdat, 1961. 347 p.  
Errata slip inserted. 4500 copies printed.

Ed. (Title page): N. P. Galkin, Doctor of Technical Sciences, Professor;  
Ed.: N. A. Korobtsova; Tech. Ed.: S. M. Popova.

PURPOSE: This book is intended for chemical and nuclear engineers and teachers and students of schools of higher education.

COVERAGE: The monograph reviews Soviet and non-Soviet literature published up to June 1960 on the physicochemical properties of uranium fluorides and methods of producing them from salts, oxides, and metallic uranium. Methods of processing uranium chemical concentrates to the tetra- and hexafluorides, which are initial products in the production of nuclear fuel,

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Chemistry and Technology of Uranium (Cont.)

80V/5820

are of primary interest. Fluoride methods are preferred to hydrometallurgical methods because radioactive waste solutions in the former are either reduced to a minimum or eliminated. No personalities are mentioned. References accompany individual chapters.

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Ch. I. Physicochemical Properties of Uranium Fluoride Compounds	11
Ch. II. Production of Uranium Tetrafluoride From Aqueous Solutions	53
Ch. III. Dry Methods of Producing Uranium Tetrafluoride	78
Ch. IV. Production of Uranium Hexafluoride	136

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27108

S/089/61/011/003/010/013  
B102/B138

21.4100

AUTHORS: Galkin, N. P., Varyatin, U. D., Smirnov, Yu. V.  
TITLE: Thermodynamics of the reduction of uranium tetrafluoride by calcium  
PERIODICAL: Atomnaya energiya, v. 11, no. 3, 1961, 257-260

TEXT: The reaction  $UF_4 + 2Me = U + 2MeF_2 + Q$  is generally used to obtain metallic uranium fluoride; Me = Mg or Ca. The case Me = Ca is considered here, and results are compared with those relative to reduction by means of Mg. The relation  $\log K = -\Delta Z_T^0 / 4.576 T$  holds for the equilibrium constant of this reaction. The change in the free energy of the reaction can be determined from the Gibbs-Helmholtz equation:

$$\Delta Z_T^0 = \Delta H_0 + \int_0^T \Delta C_p dT - T \Delta S_0 - T \int_0^T \frac{\Delta C_p}{T} dT.$$

Numerical values for the thermal effect are listed in Table 3. As may be

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Thermodynamics of the reduction...

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When, the thermal effect of the reaction grows rapidly from the boiling point of  $UF_4$  ( $1417^\circ C$ ) and that of calcium ( $1690^\circ C$ ). While the thermodynamic calculation yielded  $2000^\circ C$  for the reduction reaction, the measurement showed  $2000^\circ C$ , which is considerably higher than the melting point of the slag ( $1418^\circ C$ ). This means that sufficient heat is liberated both for the melting and for heating the melt, so that no charge preheating is required when Ca is used for the reduction of  $UF_4$ . The free energy, and, hence, also the equilibrium constant of the  $UF_4$  reduction by Ca, diminishes with rising temperature. As may be seen from the data in Table 3, the reaction equilibrium has almost completely moved over to the righthand side of the reaction. Apart from the fact that magnesium is much cheaper, the reduction of  $UF_4$  by calcium offers considerable advantages. There are 1 figure, 3 tables, and 9 references: 6 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: Ref. 5: Metal Ind. 94, no. 7, 127 (1959); Ref. 7: O. Kubaschewski, E. Evans. Metallurgical Thermochemistry. London - New York, Pergamon Press, 1958; Ref. 9: A. Glasser. The Thermochemical Properties

Card 2/3

27108

S/089/61/011/003/010/013

B102/B138

Thermodynamics of the reduction...

of the Oxides, Fluorides and Chlorides to 2500°K. New York, ANL-5750, 1958.

SUBMITTED: April 27, 1960

Legend to Table 3: (1) Temperature,  
(2) thermal effect, kcal/mole,  
(3) free energy, kcal/mole; (4)  
logarithm of equilibrium  
constant.

Темпера- тура, °K (1)	$\Delta H_T^\circ$ , ккал/моль (2)	$\Delta Z_T^\circ$ , ккал/моль (3)	lg K (4)
298	-137,0	-134,3 (-80,1)*	98,49
500	-137,64	-132,1 (-77,8)	57,72
723	-138,0	-129,0 (-74,1)	39,17
938	-135,7	-126,3 (-70,7)	29,42
1000	-135,5	-125,7 (-69,4)	27,48
1049	-134,1	-125,3 (-68,7)	26,11
1123	-138,3	-124,8 (-67,4)	24,29
1309	-149,8	-122,6 (-64,0)	20,47
1405	-147,0	-120,8 (-60,0)	18,76
1424	-144,7	-120,3 (-59,2)	18,46
1500	-147,3	-118,0 (-54,0)	17,32
1600	-197,3	-114,9 (-44,8)	14,85
1963	-275,0	-101,5	11,30
2000	-274,0	-98,3	10,74
2273	-274,1	-74,2	7,13
2500	-273,5	-54,3	4,74

Card 3/3

S/089/62/012/006/015/019  
B102/B104

AUTHORS: Galkin, N. P., Veryatin, U. D., Karpov, V. I., Braverman, I. B., Fedoseyev, I. V.

TITLE: Thermodynamics of the reduction of uranium oxides and uranyl fluoride by certain reducing agents

PERIODICAL: Atomnaya energiya, v. 12, no. 6, 1962, 531-533

TEXT: The reduction reactions of  $\text{UO}_2\text{F}_2$  and higher uranium oxides were calculated, and the reducibility of several reducing agents was assessed. The reaction potentials were determined for the range 373-1173°K, using

the relation  $\Delta Z_T = \Delta H_{298} - T\Delta S_{298} + \int_{298}^T \Delta c_p dT - \int_{298}^T \frac{\Delta c_p}{T} dT$ .

The results are tabulated.  $\text{UO}_3$  is reduced more easily than  $\text{U}_3\text{O}_8$ .  $\Delta Z_T$  is greatest when  $\text{NH}_3$  is used as reducing agent. The reducibility of CO decreases with temperature.  $\text{UO}_2\text{F}_2$  cannot be reduced by CO, but is reduced

Card 1/2

Thermodynamics of the reduction ...

S/089/62/012/006/015/019  
B102/B104

by  $H_2$  or  $NH_3$ . There are 2 figures and 2 tables.

SUBMITTED: September 11, 1961

Card 2/2

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859610004-7

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859610004-7"

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On the basis of the results of the processing of ore solutions — 10%  
On the basis of the results of the processing of ore solutions — 10%  
On the basis of the results of the processing of ore solutions — 10%

GALKIN, N.P., doktor tekhn. nauk; SUDARIKOV, B.N., kand. khim.  
nauk; VERYATIN, U.D.; SHISHKOV, Yu.D.; MAYOROV, A.A.;  
BABUSHKINA, S.I., red.; TARASENKO, V.M., red.

[Uranium technology] Tekhnologiya urana. Moskva, Atom-  
izdat, 1964. 395 p. (MIRA 17:12)



GLAKIN, N.P.; VERYATIN, U.D.; KARPOV, V.I.; BRAVERMAN, I.B.; FEDOSEYEV, I.V.

Thermodynamics of the reduction of uranium oxides and uranyl  
fluoride by some reducing agents. Atom. energ. 12 no.6:531-533  
Je '62. (MIRA 15:6)  
(Uranium oxide) (Uranyl fluoride) (Reduction, Chemical)

VERYESHCHAGIN, L.F.

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. B-8  
Equilibrium. Physicochemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7460

Author : Veryeshchagin, L.F. and Voronov, F.F.

Title : Variation of the Melting Point of Solid Ammonia at  
High Pressures

Orig Pub : Zh. fiz. khimii, 1956, Vol 30, No 2, 329-333

Abstract : Apparatus is described for the determination of the mp  
curves under pressure using the sealed capillary method.  
The pressure dependence of the temperature of fusion  
 $T_{fus}$  of ammonia in the range 733-2912 atm has been de-  
termined. The experimental data are represented to an  
accuracy of 2 percent by the Simon-Gladstiel equation  
 $\log(p/5,000) = 4.394464 \log T_{fus} - 6.366381$  and the  
equation  $p = 16,290.0 - 310.22 T_{fus} + 1.33044 T_{fus}^2$  which  
fit the curve fairly well in the range 300-3,000 atm.

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*Br. Abs.*

*B1-5, Building and Road-  
Making Materials*

Cement manufacturing is a way of utilizing boiler slag and steam  
condensate of electric power stations. A. M. Varganov and  
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Soviet. Sci. Abs., 1947, 20, 200). The manufacture of slag cement  
from the residue from iron coal burned at power stations is described.  
Of the three components, 57 ash, boiler ash, and slag, only the  
last is usually used, but admixtures of boiler ash is allowed in special  
cases. At Novosibirsk power station a cement equal in quality  
to one based on granulated blast-furnace slag (strength grade  
C.G. 60), but with a shorter setting time, is obtained with added  
70, Portland cement 27, and gypsum 3% (S.G. 200).  
R. B. CLARK.

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fluoride. Zhur. neorg. khim. 7 no.8:2020-2022 Ag '62.  
(MIRA 16:6)

(Uranyl compounds)

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(Welding--Study and teaching)

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KORENEVICH, N.P., red.; KOROBEYNIKOV, Yu.Ye., red.;  
MORGUNOVA, G.M., tekhn. red.

[Building materials made of local raw materials] Stroitel'-  
nye materialy iz mestnogo syria. Minsk, Izd-vo M-va vysshego,  
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1. Minsk. Nauchno-issledovatel'skiy institut stroitel'nykh ma-  
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(Building materials)



1 221R045 EWT(m)/EWG(s)-2/EWP(j) Po-4/Pu-4 RM

ACCESSION NR: AR4049234

S/0081/64/000/014/S070/S071

SOURCE: Ref. zh. Khimiya, Abs. 14S480

AUTHOR: Vernal, A. I.; Ponomarev, M. A.; Rayetskaya, D. Ya.; Shreder, A. G. B

TITLE: Properties and application of polymer-based concretes and mortars B

CITED SOURCE: Sb. Proiz-vo-stroit. izdeliy iz plastmass. Minsk, Vyssh. shkola, 1963, 218-239

TOPIC TAGS: polymer based concrete, plastic concrete, polymer based mortar, plastic mortar, polymer concrete property, polymer concrete application, organic admixture

TRANSLATION: The authors discuss the properties and fields of application of various types of concrete mixed with mineral and synthetic binders as a base. It is indicated that admixtures of low molecular weight organic substances

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(i.e. surface active agents and plasticizers) or polymers strongly affect the physical and mechanical properties. For instance, changes in plasticity, decreased water absorption, significant improvements in strength and other phenomena are noted when divinyl styrene latex SKS-65GP, polyvinyl acetate emulsions, as well as phenolformaldehyde, melamine formaldehyde or phenolfurfural resins are used with cement. The article describes the properties of the materials and effects produced by organic admixtures on the properties of plastic materials. For example, improved strength and lower water absorption of polymer gypsum containing thermosetting phenolformaldehyde resin is explained in terms of the latter filling the pores of the gypsum structure and of the additional reinforcement provided as the resin hardens. The article describes the properties of polymer-silicate light concrete on a base of an agglomerate silicate binder with synthetic resins (furylaniline, ureaformaldehyde, phenylformaldehyde) added or on a base of silicon organic binders (i.e. water glass and silicon ethyl ether - silicate KS). The authors also review the literature concerning formulation of polymer-cement concrete and mortar, organo-mineral concrete (i.e.

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ACCESSION NR: AR4049234

plastic concrete), the study of properties of these materials and the feasibility of their use in construction. Z. Ivanova

SIIB CODE: MT

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VERZAL, A.I., kand.khimicheskikh nauk

"Building materials (sand, gravel, and clay) of Smolensk  
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(Smolensk Province—Building materials) (Salov, I.N.)